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10/550,736	09/26/2006	Herve Thellier	277409US6PCT	8352

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EXAMINER

SZEWCZYK, CYNTHIA

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/550,736
Filing Date: September 26, 2006
Appellant(s): THELLIER ET AL.

Robert Pous
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed March 31, 2011 appealing from the Office action mailed December 29, 2010.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:
Claims 13-26.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

US 5,292,356	Herrington et al.	03-1994
US 5,712,976	Kuster et al.	02-1998
US 6,138,477	Morin	10-2000

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

Claims 13-18, 20, 21, and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over HERRINGTON et al. (US 5,292,356) in view of KUSTER et al. (US 5,713,976).

HERRINGTON teaches a process for bending glass sheets wherein glass undergoes a prebending step of allowing glass sheets to sag under gravity (col. 9 lines 12-16). HERRINGTON discloses that the process can be used for multiple sheets at once (col. 4 lines 28-35). It is inherent that if the male former is more curved than the prebent glass sheets, the central region of the glass sheets would contact the glass first. HERRINGTON discloses that the glass sheets are advanced by the female former toward the male former (col. 5 lines 46-49). HERRINGTON discloses pressing the glass sheets between the male and female formers while still supported by the female former (col. 5 lines 46-49). HERRINGTON teaches that the female former is a conventional outline or ring-type construction (col. 5 lines 43-45), wherein, one of ordinary skill in the art would understand that the most pressure would occur in the peripheral region and sealing a space between the glass sheets is possible result from the pressing. HERRINGTON discloses that a partial pressure is applied to the glass sheets during the pressing step (col. 7 lines 23-29). HERRINGTON discloses that the female former is separated from the pressing while the glass sheets are supported by the male former

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(col. 7 lines 29-33). HERRINGTON discloses that a cooling support is brought under the glass sheets while supported by the male former (col. 7 lines 30-32). HERRINGTON discloses that the partial pressure is discontinued and the glass sheets rest on the cooling support (col. 7 lines 33-36). HERRINGTON discloses that the glass sheets are then transported for cooling outside of the bending cell (col. 4 lines 59-63).

HERRINGTON is silent to including a surrounding skirt producing a partial vacuum.

KUSTER teaches a process for bending glass sheets. KUSTER discloses that is advantageous to use a surrounding skirt that provides vacuum because it decreases the air flow required without reducing the flow rate at the edge of the glass sheets.

KUSTER discloses that it is possible to achieve the desired partial vacuum and force to correct the bending of the glass sheets and also allows for the use of smaller and less expensive vacuum generators. Therefore, it would have been obvious to one of ordinary skill in the art to use a surrounding skirt in the process of HERRINGTON to achieve the advantages disclosed by KUSTER.

Regarding claim 14, figure 1 of HERRINGTON shows that the glass has a cylindrical bend and figure 3 shows that the rollers (22) have a cylindrical shape.

Regarding claim 15, HERRINGTON teaches connecting the male mold to a negative pressure and maintaining it for a time to bend the glass sheet (col. 7 lines 24-29) and then connecting the male mold to a positive pressure to aid in releasing the glass sheet (col. 7 lines 33-36).

Regarding claim 16, figure 2 of HERRINGTON shows that the glass sheets travel through a tunnel oven (21) to bring about the sagging.

Regarding claim 17, HERRINGTON discloses that the female former rises toward the male former and passes around the sag support (col. 5 lines 47-49). Figure 3 of HERRINGTON shows that the rollers occupy an area within the female former.

Regarding claim 18, the rolls of HERRINGTON can be considered a skeleton since the glass is not completely supported on the surface. It would have been obvious to one of ordinary skill in the art that the glass would have been supported at regions more than 2 cm from the peripheral edge.

Regarding claim 20, HERRINGTON teaches an oven (17) with rolls (19) to transport a glass sheets, wherein the rolls may be considered a skeleton, and a bending cell (15) wherein the bending cell comprises an annular female former which may also be considered a frame (col. 5 lines 44-46) and a convex male former (31). HERRINGTON teaches that the bending system also comprises means for discharging, or lowering, the skeleton (see figure 8), means for moving vertically the female former (col. 5 lines 47-48), and means for applying a partial pressure through the male former (col. 7 lines 23-25).

Regarding claim 21, KUSTER discloses that the area between the skirt and the male former also produces a vacuum (see figure 2).

Regarding claim 23, see the discussion of claim 13. HERRINGTON discloses that the surface of the male former is air permeable (col. 7 lines 44-49).

Regarding claim 24, see the discussion of claim 15 above.

Regarding claim 25, see the discussion of claim 17 above.

Regarding claim 26, see the discussion of claim 18 above.

Claims 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over HERRINGTON et al. (US 5,292,356) in view of KUSTER et al. (US 5,713,976) as applied to claims 13-18, 20, 21, and 23-26 above, and further in view of MORIN (US 6,138,477).

HERRINGTON as modified by KUSTER teaches a method for bending glass sheets. Modified HERRINGTON is silent to the bending temperature.

MORIN discloses a method for bending glass sheets wherein the glass is at a temperature of approximately 550 °C when leaving the oven before bending (col. 5, lines 55-57), which is included in the range of instant claim 19. It would have been obvious that this could have been the bending temperature of modified HERRINGTON because MORIN discloses that the glass is kept close to bending temperature while traveling through the oven (col. 4 lines 43-45) whereas modified HERRINGTON also teaches that glass sheets must be heated to their bending temperature in the oven (HERRINGTON col. 4 lines 43-46).

Regarding claim 22, MORIN discloses that the method results in a glass with a coefficient of non-developability of greater than 5 (col. 3, lines 10-12), which is incorporated by the range of instant claim 22. It would have been obvious that the glass of modified HERRINGTON could have a similar coefficient of non-developability because both HERRINGTON and MORIN teach that the processes are intended to produce glass products for automobiles (MORIN col. 1 lines 16-17, HERRINGTON col. 4 lines 24-25).

(10) Response to Argument

Applicant argues on page 5 that there is no description in HERRINGTON that the negative pressure commences after the glass sheet has made contact with the upper mold member, but as discussed in the final rejection, HERRINGTON discloses that “The negative air pressure, or vacuum, for example may be employed on the shaping surface of the upper mold to assist in the shaping as the glass sheet is being pressed between the opposed shaping surfaces.” According to the quoted disclosure of HERRINGTON, the vacuum would be employed at the earliest at the same time as the pressing of the molds.

The applicant argues on page 5 that HERRINGTON only teaches bending one glass sheet at a time, however, column 4 line 28-35 clearly state that the process can be adapted for multiple layered sheets of glass. HERRINGTON explicitly states that the process is not limited to bending single sheets of glass.

Applicant argues again on pages 6-7 that HERRINGTON does teaches bending a single glass sheet and that the vacuum of HERRINGTON does not commence after bending. See the discussions above.

The applicant argues on page 8 that KUSTER does not teach pressing glass sheets between upper and lower molds, however, this limitation is taught in HERRINGTON.

The applicant incorrectly states on page 8 that the only purpose of KUSTER is to enhance the lifting effect, however, as discussed in the rejection above, KUSTER

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discloses that is advantageous to use a surrounding skirt that provides vacuum because it decreases the air flow required without reducing the flow rate at the edge of the glass sheets (col. 4 lines 23-32). KUSTER discloses that it is possible to achieve the desired partial vacuum and force to correct the bending of the glass sheets and also allows for the use of smaller and less expensive vacuum generators (col. 4 lines 32-34).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Cynthia Szewczyk/

Examiner, Art Unit 1741

Conferees:

/Matthew J. Daniels/

Supervisory Patent Examiner, Art Unit 1741

/Anthony McFarlane/